-NPS NEWS-

Alabama Nonpoint Source Program Newsletter

2004 Spring/Summer Edition

New NPS Solutions Demonstrated on a Mobile County Dairy Farm

Innovative technology is being used to improve water quality of Juniper Creek, part of the Escatawpa River Basin in southwest Alabama. Water quality improvement is being achieved through minimization of polluted runoff via public – private partnerships to implement innovative best management practices on a dairy farm with severe site limitations. The dairy is located in Mobile County with property boundaries that are adjacent to Juniper Creek, a stream found on the 303d list for pathogens.

The Alabama Cooperative Extension System at Auburn University (AU/ACES) and Natural Resources Conservation Service (NRCS) have worked with the landowner to design an innovative system for waste storage and management that includes water use reduction and the GeoTube containment and dewatering system. An approved Comprehensive Nutrient Management Plan (CNMP) has been developed jointly by AU/ACES and NRCS. It includes geotextile tubes for solids removal, a smaller than normal waste storage structure, a waste water irrigation plan that includes the effluent application plan, parlor wastewater reduction, buffers and setbacks, monitoring and record keeping, and rotational grazing.

A field day tour was held in May. Dr Ted Tyson of Auburn standing on top of a geotextile tube used for solids separation. Waste from the holding pit is fed into the tube by a pump.

ALFA Environmental Hall at UWA Opens

A new 5,000 square foot training facility is the latest addition to the Alabama Onsite Wastewater Training Center in Livingston at the University of West Alabama (UWA). The Alabama Farmers Federation (ALFA) and ALFA Insurance Co. donated $250,000 to construct and equip the Alfa Environmental Hall. The building includes offices, a laboratory, restrooms, storage space, a 100-seat classroom, and an alternative wastewater treatment system that will treat the waste that is produced when activities are being held at the Center.

The 100-seat classroom gives the Center a place to conduct training, and the laboratory provides space for UWA researchers to study microscopic organisms found in wastewater.

Newly dedicated ALFA Environmental Hall on the campus of UWA.

Mandatory licensing and annual recertification of septic tank installers began at the Center in 2000. Since that time, over 4000 alternative treatment systems have been installed in the State of Alabama. These systems, with proper operation and maintenance, help to prevent nonpoint source pollution of the state's surface and ground waters.

Red Water Blues - Saving Soil, Saving Money

The Alabama Erosion and Sediment Control Partnership Advisory Committee will present a series of *Field Days* to help planners, designers, contractors, inspectors and others learn more about erosion and sediment control practices and products.

Field Day Dates and Contact Info:

Sept. 2 – Huntsville (Danny Williams 256-532-1692)
Sept. 9 – Birmingham (Rod Goode 205-823-6400)
Sept. 16 – Prattville (John Harris 334-365-5124)
Sept. 23 – Enterprise (Mike Harris 334-894-5581)
Sept. 30 – Baldwin County (Larry Morris 251-937-9327)

Successes in the Middle Coosa Watershed

Stream restoration specialists set up for a survey of one of the streambank restoration sites.

The Middle Coosa Watershed Project continues in high gear. In February, a new coordinator, Krista Ashley, was hired to facilitate watershed protection management practices in this watershed.

More than 100 Etowah County homeowners participated in a homeowners septic tank workshop in February. The workshop provided homeowners wit information about water quality problems associated with failing septic systems. As an incentive for attending the workshop, participants received a cost-share voucher, to be used for a pump out, inspection, or repair of their septic tanks.

Work to protect and repair two streambanks is scheduled to begin soon. One site is an urban stream in Gadsden on Goldenrod Road and another site is a rural stream on Tidmore Bend Road. In addition, pervious parking at the 12th Street Baptist Church in Gadsden is planned. Grass pave, pervious concrete and pervious pavement are being considered along with a series of stormwater detention areas (rain gardens) at the Gadsden Mall.

Providing Educational opportunities for citizen involvement remain a high priority in this watershed. Educational activities include sponsorship of Water Festivals in Etowah and St. Clair Counties, Enviroscape presentations to several schools, Keep Etowah Beautiful, a Storm Drain Awareness Initiative, and Business Partners for Clean Water.

To date, $216,000 has been obligated for cost-share for agricultural best management practices and include heavy use area protection, water troughs, pasture planting, cross fencing, and conservation tillage.

Alabama's first Clean Marina was designated on June 17, 2004. Zeke's Landing Marina in Orange Beach was presented with a Clean Marina flag in recognition of their commitment and dedication toward protecting and preserving water quality and our marine resources in Alabama. During the Clean Marina Program's first six months of operation , dozens of marina operators have signed pledge cards to work toward a Clean Marina certification. In addition to Zeke's, the Dog River Marina in Mobile has also recently received designation as a Clean Marina. For more information on the Alabama-Mississippi Clean Marina Program, contact Shonda Borden at **251-438-5690** or email **bordesm@auburn.edu.**

CLEAN MARINA alabama.mississippi

Robots Invade Farm

It sounds like something from a futuristic movie - *"Robotic Technology Being Used on Farms"*. It's called precision agriculture technology and is being demonstrated as a nonpoint source pollutant runoff management measure to protect water quality.

This futuristic technology uses satellites and computers to grid and track farming operations. The system informs farmers of the precise location as to where fertilizers and chemicals are needed or applied. A Global Positional System (GPS) is used to navigate and drive the equipment. A person on board take over if there is a problem.

Farmers inspect the "30,000-lb. robot" tractor at a Field Day in October 2003 (Pickens County).

The Tombigbee Resource Conservation and Development Council coordinates this project as a component of a much larger watershed protection initiative which includes more than 50,000 acres of rural and agricultural land in Alabama and Mississippi. The project is conducted in cooperation with Cooperative Extension System personnel from Alabama (Auburn University) and Mississippi (Mississippi State University). The location of the project site is the Dee River Ranch, which is partially situated in Pickens County, Alabama, and Noxebee County, Mississippi. The project area has a strong agricultural based economy primarily based on row cropping and pasture grazing, and addresses nutrient (fertilizer) and pesticide (chemical) pollutants in the Bogue Chitto Creek Watershed. The system has acheived an estimated 16-18% reduction in chemical application, thus reducing the potential for polluted runoff from cropped fields.

Identifying Rare Species in the Middle Coosa River Watershed

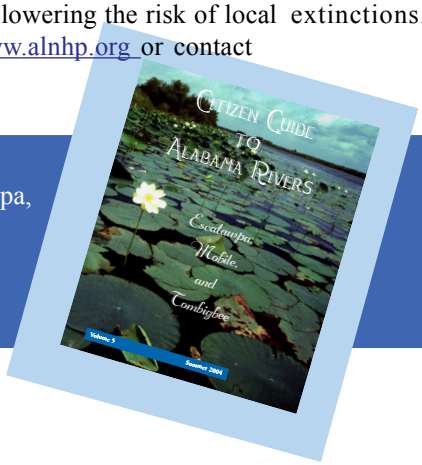
The Alabama Natural Heritage Program℠ (ALNHP) is currently involved in a project for ADEM identifying rare species and sensitive areas and in four watersheds (e.g., Middle Coosa River , Upper Coosa River, Cotaco Creek, and Eightmile Creek). The goal is to locate, assess, and quantify sensitive areas and habitats for rare species and natural communities and identify potential land use stresses. The information provided provided by the ALNHP study will be incorporated into river basin and watershed protection plans.

Red-cockaded Woodpecker (*Picoides borealis*)

In the Middle Coosa River Watershed, 281 occurrences of rare plant and animal species and natural communities have been documented, including 73 occurrences of 23 species that are federal or state protected. Ten conservation targets were chosen: the riverine system, matrix forest communities (oak-hickory-pine forest), gray bat (*Myotis grisescens*), riparian vegetation, mountain longleaf pine (*Pinus palustris*) forest communities, red-cockaded woodpecker (*Picoides borealis*), critically imperiled aquatic species (fish, mussels, and snails), southern hognose snake (*Heterodon simus*), caddisflies, and imperiled plants. Maintaining the biodiversity of the Coosa River system is particularly important because it has already lost a significant portion of its aquatic fauna to extinction. Historically, the Coosa River had a unique assemblage of freshwater snail species, with 60 species endemic to this system. However, the impoundment of the entire length of the main stem of the river resulted in a precipitous loss of many aquatic species, with at least 26 snail species presumed to now be extinct. Declining populations often indicate an environmental problem which could affect human health if not corrected.

Nonpoint source pollution (NPS) remains a threat to species viability in the watershed, particularly aquatic species. Potential NPS sources and threats include agricultural production (crops and animals), silvicultural practices, failing septic systems, and urban development. Implementation of the goals and strategies of watershed protection will be needed to protect and maintain many of the species in the watershed. Maintenance and restoration of impaired watersheds will be essential in maintaining biodiversity, protecting agricultural and domestic use water quality. Other ecological functions and economic benefits include nutrient retention and recycling, providing bank and stream channel stabilization, removal of pollutants and sediment from overland flow and shallow groundwater, maintaining stream flows, trapping and redistributing sediments, absorbing and detaining floodwaters, providing organic litter and coarse woody debris to aquatic systems, providing fish and wildlife habitat and food-web support for a wide range of aquatic and terrestrial organisms, local microclimate modification, water storage and conveyance, promotion of infiltration of overland flow, enhancing groundwater recharge, and reducing wind erosion. Riparian areas also serve as corridors for animal movement connecting isolated populations, potentially lowering the risk of local extinctions. For more information on the Alabama Natural Heritage Program℠, visit their website: http://www.alnhp.org or contact Michael Barbour at 334-834-4519 x-8, email: mbarbour@alnhp.org.

The newest "Citizen Guide to Alabama Rivers" will soon be available for the Mobile, Escatawpa, and Tombigbee Rivers. For more information, contact Alabama Water Watch at 1-888-844-4785 or check their website at alabamawaterwatch.org.



New 5th Grade Environmental Curriculum Resource

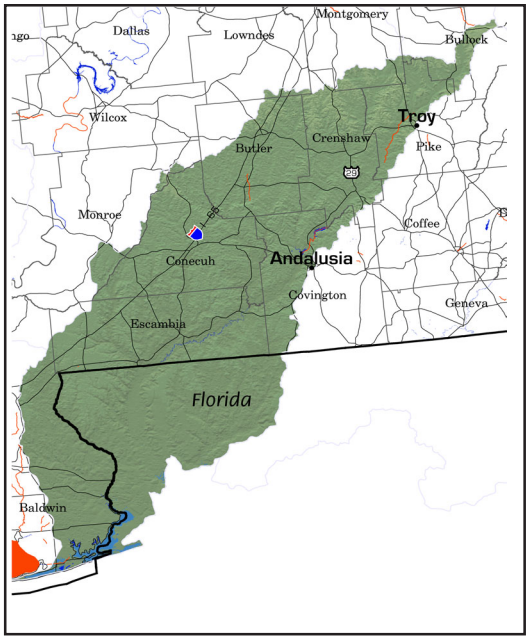
A teacher trainer workshop will be held August 11th at the Turtle Point Science Center in Flomaton.

The Alabama Clean Water Partnership Education Committee has developed a new curriculum guide for elementary science teachers that focuses on the course of study for fifth graders. The "What's in *Your* Water - Bulletin Board Project" is a week long study that builds upon Legacy's *Watersheds in Alabama* poster. The curriculum presents a different topic and activity each day, including watersheds and the water cycle, personal pollution, sediment and erosion, ecosystems of Alabama, and ending with a writing assignment. For more information on becoming a teacher trainer for this curriculum guide, or, presenting teacher workshops in your area, contact Mark Sport at ADEM at 334-394-4361, or Robin Nelson, Environmental Education Specialist with the Alabama Department of Education at 1-800-846-0948.

The 2004 State Envirothon was held this year at Camp ASCCA on Lake Martin in Jackson's Gap. Fourteen teams from across the state participated. The winning team, Oak Mountain High School from Shelby County, will represent Alabama at the international competition at Wesleyan College in Buckhannon, West Virginia.

Meet Your
Clean Water Partnership Basin Facilitator

Janet Wofford, Conecuh-Sepulga River Basins Clean Water Partnership



Janet S. Wofford has a Bachelors degree from Auburn University in Agronomy and Soils. A former NRCS employee, she has over 10 years experience in Alabama, Tennessee and Mississippi in soil and water conservation. In addition to serving as the facilitator for the Conecuh-Sepulga Clean Water Partnership, she is currently serving as the project coordinator for the Watershed Protection Plan for the Conecuh River Basin and is assisting with resources/funding for the Water Monitoring Project for the Conecuh River Basin.

The *NPS Newsletter* is produced by the Alabama Department of Environmental Management - Office of Education and Outreach - Nonpoint Source Unit. The newsletter seeks to increase environmental awareness and recognize the many public and private contributions made toward protecting, preserving, and maintaining water quality and aquatic ecosystems from nonpoint source pollution.

All NPS stakeholders in Alabama are encouraged to submit water quality and natural resource protection and conservation news articles for publication consideration. Articles should be e-mailed as MS Word document or text files; or articles and photos may be sent on diskette or CD to:

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